



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,994	11/02/2000	Avinash Jain	PA000106	3922

23696 7590 01/23/2004

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

PEREZ GUTIERREZ, RAFAEL

ART UNIT	PAPER NUMBER
2686	8

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/704,994

Applicant(s)

Jain et al.

Examiner

Rafael Perez-Gutierrez

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 30, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-21, and 24-32 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-21, and 24-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2686

DETAILED ACTION

1. This Action is in response to Applicant's amendment filed on September 30, 2003.

Claims 1, 3-21, and 24-32 are now pending in the present application. **This Action is made NON-FINAL.**

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless -- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. **Claims 1, 3, 7, 20, 24, and 27-29** are rejected under 35 U.S.C. 102(e) as being anticipated by **Sawyer et al. (U.S. Patent # 5,920,814)**, of record.

Consider **claims 1, 3, 24, and 27-29**, Sawyer et al. clearly show and disclose a method for

Art Unit: 2686

managing multiple Temporary Mobile Station Identities (TMSIs) and a method and apparatus for registering with a plurality of service areas (registration zones; Radio Temporary Mobile Station Identity (R-TSMI) zones) in a radio (wireless) telecommunication network (abstract), comprising:

registering with a first mobile switching center/base station 21 (MSC/BS) in a first service area (R-TMSI zone) (figure 1A step 2, column 2 lines 46-65, and column 4 line 67 - column 5 line 1);

receiving, at a mobile station (MS) TMSI status module 26 (means for receiving) (figure 2), an assignment for a first Temporary Mobile Station Identity (TMSI₁) (R-TSMI code) from the first mobile switching center/base station 21 (MSC/BS) (network entity) (figure 1A step 3, column 2 lines 46-65, and column 5 lines 1-3) in response to registration with a first service area (registration zone; R-TMSI zone) (figure 1A step 2, column 2 lines 46-65, and column 4 line 67 - column 5 line 1);

registering, via means for registering (not shown), with a second mobile switching center/base station 21 (MSC/BS) (network entity) in a second service area (registration zone; R-TMSI zone) (figure 1B step 13, column 2 lines 46-65, and column 5 lines 19-26); and

receiving, at the MS TMSI status module 26 (means for receiving) (figure 2), an assignment for a second TMSI₂ (R-TSMI code) from the second mobile switching center/base station 21 (MSC/BS) (network entity) (figure 1B step 14, column 2 lines 46-65, and column 5 line 26) in response to registration with the second service area (registration zone; R-TMSI zone)

Art Unit: 2686

so that the MS is registered in a plurality of service area (registration zone; R-TMSI zone) (figure 1B step 13, column 2 lines 46-65, and column 5 lines 19-26).

Consider **claims 7 and 20**, and **as applied to claim 1 above**, it is clearly inherent from the teachings of Sawyer et al. that the registration with the second mobile switching center/base station 21 (MSC/BS) (network entity) is in response to entering the second service area (registration zone) since the registration is performed when the mobile station receives a second Validity Area Parameter (VAP₂) which is only transmitted in the service area (registration zone) of the second mobile switching center/base station 21 (MSC/BS) (network entity) (radio resource (RR) level registration is enabled via the VAP₂) (column 2 lines 55-61 and column 5 lines 19-26).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was

Art Unit: 2686

commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. **Claims 1, 3-5, 7-21, and 24-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Selby (European Patent Application Publication # 0 260 763)** in view of **Sawyer et al. (U.S. Patent # 5,920,814)**, both of record.

Consider **claims 1, 3, 24, and 27-29**, Selby clearly discloses a method for registering with a plurality of registration zones in a wireless communications network (abstract), the method comprising:

registering with a first base station in a first temporary zone (column 7 lines 30-42);
receiving, via means for receiving 2 (figure 2), an assignment for a first identity from a

Art Unit: 2686

first network entity (base station) in response to registration with a first registration zone (column 7 lines 31-42);

registering, via means for registering 1, 3 (figure 2), with a second network entity (base station) in a second registration zone (column 8 lines 20-56); and

receiving, via means for receiving 2 (figure 2), an assignment for a second registration identity from the second network entity in response to registration with the second registration zone (column 8 lines 20-56).

However, Selby does not explicitly states that the system assigns a Temporary Mobile Subscriber Identity (TMSI) to the mobile station when it registers in each different service region.

Sawyer et al. clearly show and disclose a method for managing multiple Temporary Mobile Station Identities (TMSIs) and a method and apparatus for registering with a plurality of service areas (registration zones; Radio Temporary Mobile Station Identity (R-TSMI) zones) in a radio (wireless) telecommunication network (abstract), comprising:

receiving, at a mobile station (MS) TMSI status module 26 (means for receiving) (figure 2), an assignment for a first Temporary Mobile Station Identity (TMSI₁) (R-TSMI code) from the first mobile switching center/base station 21 (MSC/BS) (network entity) (figure 1A step 3, column 2 lines 46-65, and column 5 lines 1-3) in response to registration with a first service area (registration zone; R-TSMI zone) (figure 1A step 2, column 2 lines 46-65, and column 4 line 67 - column 5 line 1); and

Art Unit: 2686

receiving, at the MS TMSI status module 26 (means for receiving) (figure 2), an assignment for a second TMSI₂ (R-TMSI code) from the second mobile switching center/base station 21 (MSC/BS) (network entity) (figure 1B step 14, column 2 lines 46-65, and column 5 line 26) in response to registration with the second service area (registration zone; R-TMSI zone) (figure 1B step 13, column 2 lines 46-65, and column 5 lines 19-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the assignment technique disclosed by Sawyer et al. in the method taught by Selby in order to enhance the efficiency of the system by assigning different TMSIs in different zones. Increased signaling capacity as well as reduced overhead are achieved with this technique due to the reduction in the number of registration requests required by the mobile station.

Consider **claims 4 and 30**, and **as applied to claims 1 and 28 above**, Selby, as modified by Sawyer et al., further discloses the steps of:

maintaining, via computer system 3 (figure 2), a first counter to provide an indication to initiate timer-based registration (column 15 lines 1-31); and

initiating, via computer system 3 (figure 2), timer-based registration if a value in the first counter exceeds a timer-based registration count value (column 15 lines 1-31).

Consider **claims 5 and 31**, and **as applied to claims 4 and 30 above**, Selby, as modified by Sawyer et al., further discloses the steps of:

receiving, via computer system 3 (figure 2), a value representative of a maximum

Art Unit: 2686

expiration period for timer-based registration (column 15 line 1 - column 21 line 45); and

setting, via computer system 3 (figure 2), the timer-based registration count value based on the received value (column 15 line 1 - column 21 line 45).

Consider **claim 7**, and **as applied to claim 1 above**, Selby, as modified by Sawyer et al., further discloses that the registration with the second network entity is in response to entering the second registration zone (column 8 lines 20-56).

Consider **claim 8**, and **as applied to claim 1 above**, Selby, as modified by Sawyer et al., also discloses that the registration with the second network entity is implicitly performed in response to establishing a connection with the second network entity (column 8 lines 20-56).

Consider **claim 9**, and **as applied to claim 1 above**, Selby, as modified by Sawyer et al., further discloses that the first registration zone is entered first and the second registration zone is subsequently entered (column 8 lines 20-56), the method further comprising:

activating a first timer for the first registration zone upon registration with the second network entity (column 15 line 1 - column 21 line 45).

Consider **claims 10 and 11**, and **as applied to claim 9 above**, Selby, as modified by Sawyer et al., also discloses:

updating a count value for the first timer at each update interval (column 13 line 1 - column 21 line 45); and

timing out registration with the first registration zone if a count value for the first timer exceeds a time-out value, wherein said time-out value is provided by the second network entity

Art Unit: 2686

(column 13 line 1 - column 21 line 45).

Consider **claim 12**, and **as applied to claim 1 above**, Selby, as modified by Sawyer et al., further discloses the step of deactivating a second timer for the second registration zone upon registration with the second network entity (column 13 line 1 - column 21 line 45).

Consider **claim 13**, and **as applied to claim 1 above**, Selby, as modified by Sawyer et al., also discloses the step of maintaining a zone list having a plurality of entries, one entry for each registration zone in which TMSI has been assigned and with which registration is currently valid (column 13 line 1 - column 21 line 45).

Consider **claim 14**, and **as applied to claim 13 above**, Selby, as modified by Sawyer et al., further discloses the steps of receiving a value indicative of a maximum number of registration zones with which registration is allowed and deleting one or more entries from the zone list such that the number of entries maintained in the zone list is equal to or less than the maximum number of allowable registration zones (column 13 line 1 - column 21 line 45).

Consider **claim 15**, and **as applied to claim 14 above**, Selby, as modified by Sawyer et al., also discloses that the oldest entries in the zone are deleted first (column 13 line 1 - column 21 line 45).

Consider **claim 16**, and **as applied to claim 15 above**, Selby, as modified by Sawyer et al., further discloses that the oldest entries in the zone list are determined by associated timers activated for the entries (column 13 line 1 - column 21 line 45).

Consider **claim 17**, and **as applied to claim 13 above**, Selby, as modified by Sawyer et

Art Unit: 2686

al., also discloses that each entry in the zone list corresponds to an active registration zone, and wherein each entry includes a zone number of the active registration zone, a zone code assigned for the active registration zone, and an entry timer for providing an indication used to time out registration with the active registration zone (column 13 line 1 - column 21 line 45).

Consider **claim 18**, and **as applied to claim 17 above**, Selby, as modified by Sawyer et al., further discloses that each entry in the zone list further includes a time-out count indicative of a maximum timeout period for registration with the active registration zone, and wherein a timeout period for registration with the active registration zone, and wherein a timeout period for registration with the active registration zone is determined based in part on the timeout count (column 13 line 1 - column 21 line 45).

Consider **claim 19**, and **as applied to claim 1 above**, Selby, as modified by Sawyer et al., also discloses that registration is enabled while in a connected state indicative of an established connection between a mobile station and a base station (column 8 lines 19-56).

Consider **claim 20**, and **as applied to claim 1 above**, Selby, as modified by Sawyer et al., further discloses that radio resource (RR) level registration is enabled via a message from a network entity, and timer-based registration is enabled via a message from a network entity (column 8 lines 19-56).

Consider **claim 21**, and **as applied to claim 4 above**, Selby, as modified by Sawyer et al., also discloses that timer-based registration is enabled via a message from a network entity (column 8 lines 19-56).

Art Unit: 2686

Consider **claim 25**, and as **applied to claim 24 above**, Selby, as modified by Sawyer et al., further discloses that the first registration zone is entered first and the second registration zone is subsequently entered (column 8 lines 20-56), the method further comprising:

activating a first timer for the first registration zone upon registration with the second network entity (column 15 line 1 - column 21 line 45); and

deactivating a second timer for the second registration zone upon registration with the second network entity (column 13 line 1 - column 21 line 45).

Consider **claim 26**, and as **applied to claim 25 above**, Selby, as modified by Sawyer et al., also discloses:

updating a count value for the first timer at each update interval (column 13 line 1 - column 21 line 45); and

timing out registration with the first registration zone if a count value for the first timer exceeds a time-out value (column 13 line 1 - column 21 line 45).

6. **Claims 6 and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Selby (European Patent Application Publication # 0 260 763) in view of Sawyer et al. (U.S. Patent # 5,920,814), as **applied to claims 5 and 31 above**, and further in view of Fehnel (U.S. Patent # 6,064,889), each of record.

Consider **claims 6 and 32**, and as **applied to claims 5 and 31 above**, Selby, as modified by Sawyer et al., discloses the claimed invention except that the timer-based registration count

Art Unit: 2686

value is a pseudo random value in a range between zero and a maximum value related to the received value.

Fehnel clearly discloses a method and apparatus for registering with a plurality of registration zones in a wireless communications network (abstract) comprising receiving a value representative of a maximum expiration period for timer-based registration (column 12 lines 9-44) and setting the timer-based registration count value based on the received value (column 12 lines 9-44), wherein the timer-based registration count value is a pseudo random value in a range between zero and a maximum value related to the received value (column 13 lines 31-49).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate the timer-setting technique disclosed by Fehnel into the combined method and apparatus of Selby and Sawyer et al. in order to better control periodic registrations in the system.

Response to Arguments

7. Applicant's arguments with respect to **claims 1, 3-21 and 24-32** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Art Unit: 2686

8. Any response to this Office Action should be **faxed to (703) 872-9306 or mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to

Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.


Rafael Perez-Gutierrez

R.P.G./rpg **RAFAEL PEREZ-GUTIERREZ**
PATENT EXAMINER

January 15, 2004